

## REMARKS/ARGUMENTS

The claimed invention pertains to techniques for sending a message from a first common Object Request Broker (ORB) to a second common Object Request Broker (ORB) (see, for example, claim 1). Although an amendment to claims is unnecessary, claims 1, 13, 14, 17 and 22 have been amended solely in order to further clarify that the claimed invention pertains to sending a message from a first common Object Request Broker to a second common Object Request Broker operating in a distributed object oriented environment. As such, no substantive claim amendment has been made. Accordingly, it is respectfully requested that the Examiner enter the amendment to the claims

Claims 1-23 are pending. In the Office Action, the Examiner has maintained the rejection of claims 1-23 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,633,923 (*Kukura et al.*) in view of "x-kernel tutorial", by Peterson, Davie and Bavier, published in January 1996 ("*Peterson*"). This rejection is fully traversed below.

The Applicant respectfully reiterates the arguments submitted in the amendment dated February 23, 2004. Again, it is very respectfully submitted that neither *Kukura et al.* nor *Peterson* pertain to a method for sending a message from a first common Object Request Broker to a second common Object Request Broker.

As discussed in the amendment dated February 23, 2004, *Kukura et al.* pertains to dynamic configuration of interceptors (*Kukura et al.*, title). Although *Kukura et al.* states that different interceptor and binding interfaces can be involved in client and server roles that make up an invocation (*Kukura et al.*, col. 13, 16-20), *Kukura et al.* does NOT teach or suggest a method for sending a message from a first common Object Request Broker to a second common Object Request Broker. As noted by the Examiner, *Kukura et al.* is silent about: (a) determining whether a message is to be fragmented in two or more sub-messages, (b) initializing an offset, (c) reading the offset variable, (d) completing construction of the sub-message based on the offset-variable, and (e) updating the offset-variable (Final Office Action, page 3). Accordingly, it is respectfully submitted that *Peterson* cannot possibly overcome the deficiencies of *Kukura et al.*

Moreover, *Peterson* pertains to a tutorial on writing x-kernel protocols. The x-kernel provides an object-based framework for implementing protocols such as TCP or IP networking protocols (*Peterson*, page 3). The tutorial of *Peterson*, however, does not even address sending a message from a first common Object Request Broker to a second common Object Request Broker. As such, it is earnestly believed that it should be evident that *Kukura et al.* and *Peterson* taken alone, or in any proper combination, cannot possibly teach or suggest the claimed invention. Nevertheless, for the Examiner's convenience a few of the claimed features which are neither taught nor suggested by *Kukura et al.* and *Peterson* are highlighted below.

**(a) *Kukura et al.* and *Peterson* do NOT teach or suggest initializing an offset-variable, for a message that is sent from one ORB to another ORB when the message is fragmented into two or more sub-messages (claim 1)**

It should be noted that the claimed invention does NOT merely recite initializing any offset-variable at any time. As such, a general teaching or suggestion in the art that an offset-variable is generally known is NOT sufficient to establish a *prima facie* basis for rejection. Here, the claimed invention recites an offset-variable for a message that is sent from one ORB to another ORB. In addition, it should be noted that the offset-variable is provided when the message is fragmented into two or more sub-messages.

Firstly, it is respectfully submitted that contrary to the Examiner's assertion, page 32 of *Peterson* does NOT teach initializing an offset variable (for a message that is to be sent by an ORB to another ORB) when it is determined that a message is to be fragmented into two or more sub-messages (Final Office Action, page 11). Again, it is respectfully submitted that section 9.2 of *Peterson* pertains to reassembly of IP fragments (*Peterson*, page 32). Clearly, reassembling a message is NOT the same as fragmenting it. In fact, assembling of a message is usually the opposite of fragmenting it. Accordingly, it is respectfully submitted that the rejection is improper for at least this reason and should be withdrawn.

Furthermore, even assuming solely for the sake of argument that *Peterson* teaches initializing an offset variable when it is determined that a message is to be fragmented into two or more sub-messages, the combination of *Peterson* and *Kukura et al.* do NOT teach or suggest an offset-variable, for a message that is sent from one

ORB to another ORB when the message is fragmented into two or more sub-messages.

This is believed to be evident because there has to be a motivation or suggestion for using an offset variable for a message that is sent from one ORB to another ORB when the message is fragmented into two or more sub-messages. Neither *Peterson* nor *Kukura et al.* however, pertain to sending a message in fragments from one ORB to another ORB. As such, the claimed invention would NOT have been obvious to one ordinarily skilled in the art based on the dynamic configuration of interceptors in *Kukura et al.* and the x-kernel protocols tutorial of *Peterson* because, among other things, one of ordinary skill in the art would NOT even become aware of problems associated with sending message fragments from one ORB to another ORB.

On the other hand, the claimed invention provides a methodology that can be used to send message fragments from one ORB to another ORB. It should also be noted that this methodology provides a solution that is well suited for the typical characteristics of ORBs (e.g., message headers may be of variable size). Clearly, the combination of *Peterson* and *Kukura et al.* would not teach or suggest using an offset-variable for an ORB environment.

In the Final Office Action, the Examiner seems to be asserting that the general knowledge that an offset variable can keep track of the original message and fragmented message to provide "flexible and robust data buffer management" is sufficient in itself to provide a motivation or suggestion to combine the cited references (Final Office Action, page 14). The applicant very respectfully disagrees. It is respectfully submitted that the Examiner needs to show that there was a motivation or suggestion for providing an offset variable for a message that is to be fragmented and sent from one ORB to another ORB. Clearly, a general motivation or suggestion to use an offset-variable is not sufficient to establish a *prima facie* case of obviousness.

**(b) *Kukura et al.* and *Peterson* do NOT teach or suggest several other claimed features (e.g., sending a message), associated with an offset-variable, for a sub-message that is sent from one ORB to another ORB)**

Contrary to the Examiner's assertion, it is respectfully submitted that the fragmentation (9.1) and reassembly (9.2) of *Peterson* do NOT teach or suggest: (a) initializing an offset-variable for a message associated with an ORB, (b) determining

whether there is a need to know the position of a byte of a sub-message with respect to the message, (c) completing construction of the sub-message based on an offset-variable, (d) updating the offset-variable, and (e) sending the constructed sub-message.

Initially, it is respectfully submitted that the Examiner has not properly addressed these features. For example, the claimed invention recites sending a constructed sub-message, which has been constructed based on an offset-variable, from a first ORB to second ORB. However, rather than addressing this claimed feature, the Examiner seems to be merely asserting that (i) sending a constructed sub-message is taught by *Kukura et al.*, and (ii) sending a message from a first ORB to a second ORB is also taught by *Kukura et al.* (Final Office Action, page 3). Clearly, the claimed features cannot merely be dismissed based on assertions (i) and (ii) because it is NOT enough to assert that sending a sub-message is taught by *Kukura et al.* It is respectfully submitted that the Examiner should at least address construction of a sub-message that is sent from one ORB to another ORB. In fact, the Examiner should further address that the sub-message which is sent from one ORB or another ORB is constructed based on an offset-variable. Clearly, more assumptions are required to get from assertions (i) and (ii) to the claimed feature. Accordingly, it is respectfully submitted that the Examiner has not even properly addressed this claimed feature.

Moreover, it is respectfully submitted that *Kukura et al.* does NOT teach or even remotely suggest construction of a message that is sent from one ORB or another ORB. Instead, *Kukura et al.* describes an interceptor send\_message() implementation where a buffer is used to pass completed message fragments down a chain by calling the next interceptor send\_message() (*Kukura et al.*, col. 38, lines 12, 29). As such, it is respectfully submitted that *Kukura et al.* can not possibly teach or remotely suggest a constructed sub-message, which has been constructed based on an offset-variable. Clearly, *Kukura et al.* does NOT teach or even remotely address this recited feature.

**(c) *Kukura et al.* and *Peterson* do NOT teach or suggest updating an offset-variable by subtracting the length of the header of the sub-message from the length of another sub-message that was constructed immediately prior to construction of the sub-message that is sent from one ORB to another ORB (claim 2)**

In general, the dependent claims recite additional features that render them patentable for additional reasons. Based on the lack of any general teaching of suggestion in the cited art with respect to sending sub-messages between ORB's, it is respectfully submitted that *Kukura et al.* and *Peterson* cannot possibly teach or even remotely suggest these additional features.

Contrary to the Examiner's assertion (Final Office Action), it is respectfully submitted that col. 37 of *Peterson* does NOT teach or suggest this feature. Moreover, based on the discussion above, it is respectfully submitted that *Peterson* cannot possibly teach or even remotely suggest updating an offset-variable (claim 2). Similarly, dependent claims 3, 4 and 5 recite additional features that render them patentable for additional reasons.

**(d) *Kukura et al.* and *Peterson* do NOT teach or suggest the combination of several features, associated with an offset-variable, for a sub-message that is sent from one ORB to another ORB**

As discussed above in part (b), *Kukura et al.* and *Peterson* do NOT teach or suggest several claimed feature, associated with an offset-variable, which are performed on a sub-message that is sent from one ORB to another. In addition, in view of the general deficiencies of the cited art and lack of a motivation or suggestion to combine, it is respectfully submitted that *Kukura et al.* and *Peterson* cannot possibly teach or suggest the combination of these recited features. By way of example, claim 1 recites a combination that includes nine (9) features. It is respectfully submitted that the combination of *Kukura et al.* and *Peterson* do NOT teach or suggest the combination of these claimed features. In addition, it is respectfully submitted that *Kukura et al.* and *Peterson* can not possibly teach the combination of the features in the dependent claims (for example, claim 2). Moreover, it should be noted that dependent claim 2

recites a feature that can be used to implement an efficient mechanism for sending sub-messages between ORBs.

### **Conclusion**

Based on the foregoing, it is submitted that claims 1-23 are patentably distinct over the cited art of record. Additional limitations recited in the independent claims or the dependent claims are not further discussed because the limitations discussed above are sufficient to distinguish the claimed invention from the cited art. Accordingly, Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner.

Applicants hereby petition for an extension of time which may be required to maintain the pendency of this case, and any required fee for such extension or any further fee required in connection with the filing of this Amendment is to be charged to Deposit Account No. 500388 (Order No. SUN1P807). Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,  
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